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(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
12 August 2004 (12.08.2004)

PCT

(10) International Publication Number
WO 2004/067749 A1

- (51) International Patent Classification⁷: C12N 15/82, A01H 5/00 (74) Agent: HARTZ, Nikolai, F.; Wächtershäuser & Hartz, Weinstrasse 8, 80333 München (DE).
- (21) International Application Number: PCT/EP2004/000892 (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (22) International Filing Date: 30 January 2004 (30.01.2004)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data: 103 03 937.6 31 January 2003 (31.01.2003) DE (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).
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- Published:
— with international search report
— before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments
- For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: PLANT TRANSFORMATION WITH IN VIVO ASSEMBLY OF A SEQUENCE OF INTEREST

(57) Abstract: A process of producing transgenic plants or plant cells stably transformed on a chromosome with a DNA sequence of interest and capable of expressing a function of interest from said DNA sequence of interest, said process comprising (a) providing plant cells or plants with at least two different vectors, whereby (i) said at least two different vectors are adapted to recombine with each other by site-specific recombination in said plant cells for producing a non-replicating recombination product containing said DNA sequence of interest, (ii) said at least two different vectors are adapted for integrating said DNA sequence of interest into said chromosome, (iii) said DNA sequence of interest contains sequence portions from at least two of said at least two different vectors, said sequence portions being necessary for expressing said function of interest from said DNA sequence of interest; and (b) selecting plants or plant cells expressing said function of interest.

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